

REMARKS

1) The Examiner has submitted a Notice of Non-Compliant Amendment, stating that the amendment to the Abstract was not presented on a separate sheet. Applicants hereby submit a corrected amendment, including a separate sheet for the Abstract amendment. It is respectfully urged that the above amendment is now in compliance with 37 C.F.R. 1.121. In addition, the Abstract has been further amended by Applicants such that it is within the required limit of 150 words or less, pursuant to 37 C.F.R. 1.72.

Applicants submit that no fee is required with this corrected amendment. It is pointed out that the \$490.00 fee previously submitted by Applicants with the paper filed on February 11, 2009 applies to this submission. In the event that the Commissioner determines that any other fees or extensions of time are required in order for this submission to be timely, it is requested that this submission include a petition for an additional extension for the required length of time, and the Commissioner is authorized to charge any other fees necessitated by this paper to Deposit Acct. No. 18-1589.

2) The Examiner has rejected claims 1-20 under 35 U.S.C. 112, second paragraph, as being indefinite. Applicants respectfully submit that this ground of rejection has been overcome by the instant amendment. Claims 1, 4, and 8-10 have been amended to replace the term "moldedin" with the term "moldedly". Corresponding changes have been made to correct the term "moldedin", as shown above. It is therefore respectfully asserted that the 35 U.S.C. 112 rejection has been overcome by the instant amendment, and should be withdrawn.

3) The Examiner has rejected claims 1-20 under 35 U.S.C. 103 over Krotz et al. (US 5,915,160) in view of Newkirk et al. (US 5,007,476). Applicants respectfully submit that this ground of rejection has been overcome by the instant amendment. Claim 1 has been

amended to include the subject matter of claim 2. Accordingly, claim 2 has been cancelled.

The present invention relates to oxide-dispersed alloys. Specifically, the presently amended claims provide a manufacturing method for an oxide-dispersed alloy in which dispersed particles comprising oxides of one or two or more kinds of additive metals are dispersed in a matrix metal, comprising the steps of:

- (a) manufacturing an alloy powder or an alloy wire rod comprising a matrix metal and an additive metal;
- (b) oxidizing the additive metal in the alloy powder or alloy wire rod with water to form dispersed particles by introducing the alloy powder or alloy wire rod into a high-energy ball mill with water, and by agitating the alloy powder or alloy wire rod *using an attritor, Dyno-mill, or Ultra Visco Mill* as the high-energy ball mill; and
- (c) moldedly solidifying the alloy powder or alloy wire rod after oxidation.

An important feature of the invention, as presently claimed, is the requirement to use a high-energy ball mill in the form of an attritor, Dyno-mill, or Ultra Visco Mill, as a means of oxidizing an alloy powder with water.

Krotz relates to methods of producing high strength and high conductivity gold wire for microelectronic interconnects. The Examiner takes the position that Krotz teaches each feature of the present invention, except for the use of water in a ball mill. Applicants urge that while Krotz does indeed fail to teach the use of water, this reference *also* fails to teach other key features of the present claims. That is, while Krotz does teach the use of a "ball mill" in general, they do not disclose the use of a *high-energy* ball mill as presently required, which is selected to achieve the desired oxidation of an additive metal with water. The Examiner seems to regard Krotz's mention of a generic ball mill as being equivalent to an attritor. However, in this field of art, a ball mill is broadly known as representing general equipment for accommodating the grinding of certain media such as balls, and stirring. In fact, such ball mills are classified on a basis of stirring power. In contrast, an attritor is an instrument which *differs* from such a general ball mill.

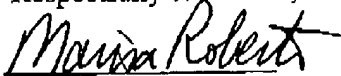
Oxidation of alloy powder in the present invention is achieved by the use of an attritor, which *high-energy ball mill* exhibits strong stirring power, which is used for stirring with water as the present claims require. Applicants urge that the use of an attritor, Dyno-mill, or Ultra Visco Mill, as now presently required, is important in achieving the desired oxidation effects of the present invention.

The Examiner further cites Newkirk in an attempt to fill the voids of Krotz, stating that it would have been obvious from the teachings of Newkirk to pour water into a ball mill. It has been held that there must be some articulated reasoning with some rational underpinning to support a legal conclusion of obviousness. *KSR Int'l. v. Teleflex Inc.*, No. 04-1350, 2007 WL 1237837 at 13, 82 U.S.P.Q.2d 1385, 1396 (Apr. 30, 2007) (*citing In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329 (Fed. Cir. 2006)). Applicants submit that no such support is provided in this case. First, it should be noted that the water used by Newkirk is merely a *dispersing* medium, for dispersing an oxidized metal matrix complex. In contrast, the present invention introduces water as a *supply source of oxygen*, for oxidizing the metal. Importantly, the oxidized metal matrix complex of Newkirk contains metal which is *already oxidized*. This directly teaches away from the present claims. Furthermore, Newkirk specifically states that they control the pH of their solution during ball milling, to purposely *reduce* any oxidation reaction with the water in their ball mill (see Example 1, column 33 lines 57-62). Thus, it is urged that the motives of Newkirk as they relate to the addition of water are clearly different from those of the present invention. Applicants therefore submit that an artisan having common sense at the time the invention would *not* have reasonably considered using water in Krotz as a source of oxygen for oxidizing their metal, based on the teachings of Newkirk which teach just the opposite. It is further submitted that a combination of Krotz and Newkirk would still fail to obviate the present claims, since neither reference teaches or suggest the use of an attritor, Dyno-mill, or Ultra Visco Mill as a high-energy ball mill at all. For the above reasons, it is respectfully urged that the 35 U.S.C. 103 rejection should be withdrawn.

The undersigned respectfully requests re-examination of this application and believes it is

now in condition for allowance. Such action is requested. If the Examiner believes there is any matter which prevents allowance of the present application, it is requested that the undersigned be contacted to arrange for an interview which may expedite prosecution.

Respectfully submitted,



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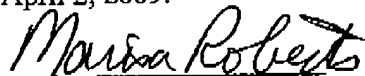
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I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office (FAX No. 571-273-8300) on April 2, 2009.



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICEIn re the application of:  
Toru Shoji, et al.

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Serial Number: 10/582,536

Group Art Unit: 1793

Filed: June 9, 2006

Examiner: George P. Wyszomierski

For: MANUFACTURING METHOD FOR OXIDE DISPERSED ALLOY

FAX COVER SHEETTO: Commissioner for Patents  
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KINDLY DIRECT THIS COMMUNICATION TO:

EXAMINER : George P. Wyszomierski  
GROUP : 1793

NO. OF PAGES SENT INCLUDING THIS COVER SHEET: 13

INCLUDED: 12 pages of Corrected Amendment, and 1 page of Fax Cover Sheet

If all pages are not received, please call (609) 921-3500.